June 26, 1923. 1,460,084

J. E. WALLIS

BUILDING BLOCK

Filed May 6, 1922 2 Sheets-Sheet 1

Fig. 1.

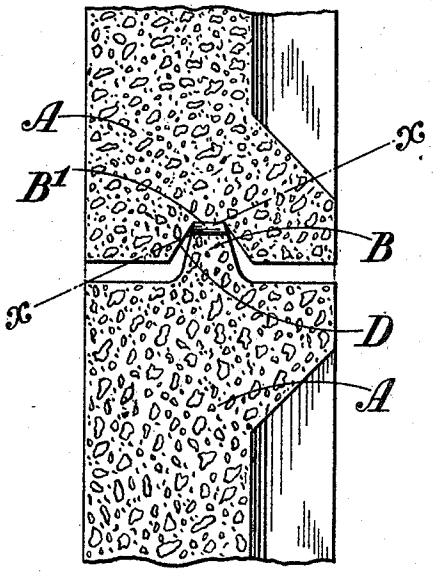


Fig. 4.

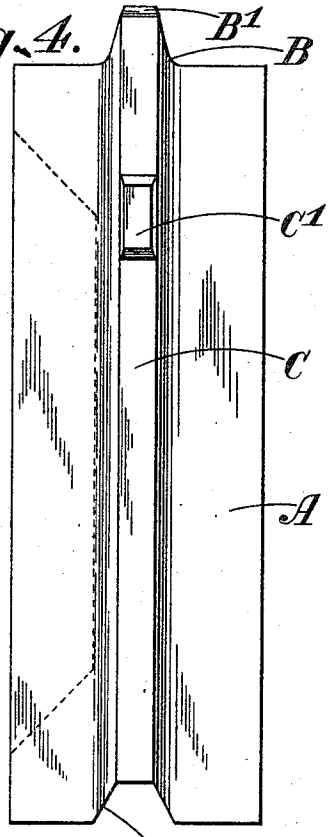
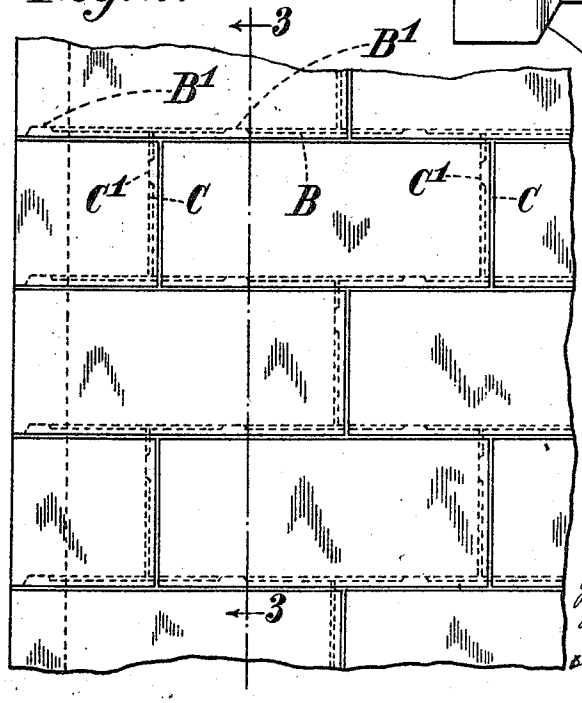


Fig. 2.



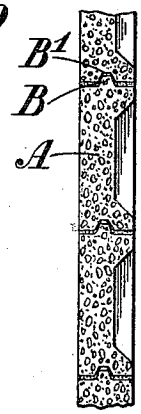


Fig. 3.

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June 26, 1923. 1,460,084

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Filed May 6, 1922 2 Sheets-Sheet 2

Fig. 5.

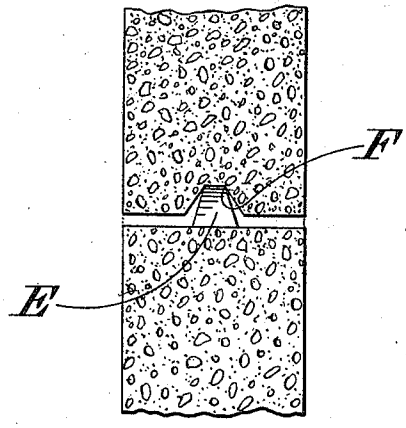
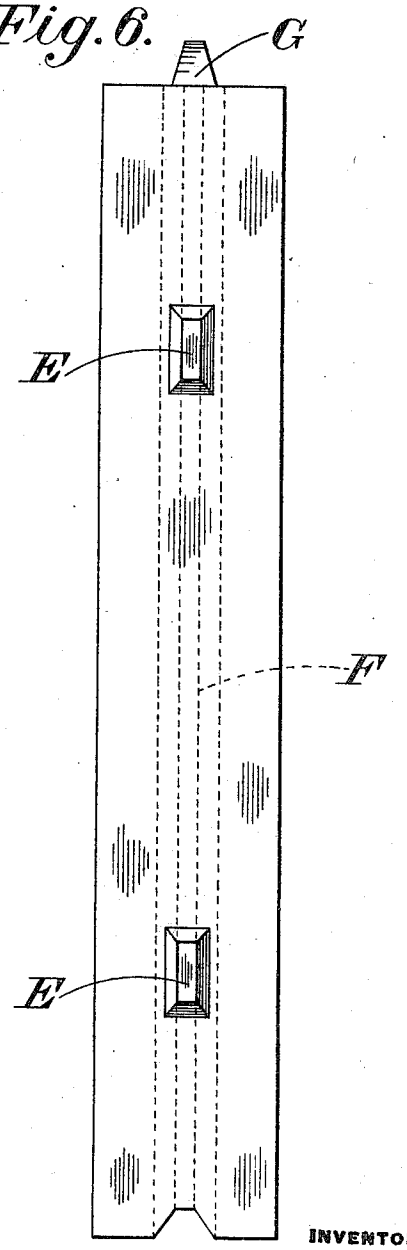


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN EDWARD WALLIS, OF RICKMANSWORTH, ENGLAND.

BUILDING BLOCK.

Application filed May 6, 1922. Serial No. 558,946.

To all whom it may concern:

Be it known that I, JOHN EDWARD WALLIS, a subject of the King of England, residing at Rickmansworth, Hertfordshire, England, have invented certain new and useful Improvements in Building Blocks, of which the following is a specification.

This invention is for improvements in or relating to building-blocks or the like and has for its object to provide a block which shall be self-aligning.

The self-aligning block or the like to which the invention relates is of the type wherein the block has on one vertical and one horizontal jointing-face a centrally-disposed projecting portion for engagement with a corresponding centrally-disposed recess in the other horizontal and vertical faces of a fellow block.

According to this invention, a block has on one horizontal jointing-face a plurality of projecting nibs centrally disposed in the direction of thickness of the block, and on one vertical jointing-face one or more projecting nibs also centrally situated in the direction of thickness of the block, and on the other jointing-faces recesses to receive these nibs which are of such width as to readily accommodate the nibs except at the base where they are made to fit the tops of the nibs, and which nibs are of such height that the jointing-faces are separated thereby a distance sufficient to make the requisite joint.

Preferably, each block is provided with a central rib along the horizontal and vertical faces, and the nibs project from the top of the rib so that jointing material may cover the ribs without covering the nibs.

The invention further relates to a method of laying the blocks when provided with carrying ribs for the nibs, which consists in wiping off the mortar or cement on each side of the rib along a plane which passes through that edge of the rib nearest the side to be operated upon and is parallel to the bedding-face of the block, or lies nearer to said bedding-face at the outer edge on that side than at the rib. Preferably, the mortar is wiped off along a plane which passes through the edge of the rib and the outer edge of the block. It is found that when the quantity of mortar is restricted within these limits, it does not rise above the registering-nibs and thus interfere with the alignment,

In the accompanying drawings—

Figure 1 is a section through part of two blocks constructed according to one method of carrying out this invention;

Figure 2 is a face view of part of a wall constructed of blocks according to Figure 1;

Figure 3 is a transverse vertical section through a wall-portion constructed of the same blocks,

Figure 4 is an end elevation of a block.

Figure 5 is a section through part of two blocks constructed according to a second method of carrying out this invention, and

Figure 6 is a plan of a block constructed according to the said second method of carrying out the invention.

Each block A has on the rib B, which is intended to lie horizontally in the structure, two nibs B^1, and the ribs C, which are intended to lie in the vertical position, have each a nib C^1 near the upper ends of the said vertical ribs.

It will be seen that the ribs are made with their sides inclined so that they are narrower at the top than at the bottom and the nibs are made as a continuation of this form.

The method of laying these blocks consists in placing the mortar on each side of the ribs and then running the trowel along the block inclined to the angle indicated by the line x—x, which will ensure that only sufficient mortar shall be left in position to make a proper joint and yet ensure that it shall not rise over the nibs when the blocks are brought together.

Each block has on that side opposite to the one provided with what may be termed the horizontal rib a channel D which has a flat bottom and is splayed out at the sides to a greater angle than that of the cooperating rib, and when one block is laid upon the other the mortar will not only fill the spaces between the top and bottom faces of the blocks but will fill the spaces at the sides of the rib and also the spaces between the nibs. The means provided therefore by the corners of the blocks and the corners of the ribs whereby the mortar can be instantly wiped off by the trowel is of great importance as it enables the proper quantity of mortar to

be placed in position quickly without difficulty.

A single nib being provided at one end only of the vertical rib enables easier registration than would be the case if a nib were provided on each rib.

The same method of laying the blocks applies to the treatment of the vertical ribs C of the blocks. Each block has, of course, a vertical rib C (Figure 4) at one end and a corresponding channel at the other end whose width is greater than that of the rib it is to receive, as has been described with reference to the rib B and channel D, though with both the ribs B and C the tops of the nibs fit the flat bottom portions of the channels.

It will be seen from Figure 4 that each nib extends along the rib a distance equal to about twice the width of the top of the rib; in other words, the length of the nib is approximately twice the width of the rib.

For wiping off the mortar as described above, the following dimensions are found to give good results:—

For a 3" block, when it is desired to make a $\frac{1}{4}$" joint, the rib may be $\frac{5}{8}$" deep, the registering-nibs on the top $\frac{1}{8}$" deep, the flat top of the rib being $\frac{7}{16}$" wide and the flat top of the nib $\frac{3}{8}$" wide. If a narrower joint is required the depth of the rib has to be decreased, thus, for $\frac{1}{8}$" joint the depth is about $\frac{3}{8}$", or for a $\frac{1}{16}$" joint the depth is approximately $\frac{5}{16}$". In all these sizes of joint the mortar can be wiped off with a trowel run along the edge of the rib and the edge of the block, but if it is desired to make a joint as wide as $\frac{3}{8}$" it may be undesirable to make the rib proportionately deep, and in such case the depth of the rib may be kept at $\frac{1}{2}$" and the mortar or cement can be wiped off level with the top of the rib in a plane parallel to the bedding-face of the block.

Obviously, the invention is not restricted in its application to building-blocks as any like building unit such as tiles or bricks may similarly be made self-aligning. Although mortar has been referred to, it will be understood that other jointing material, such as cement, may be used in the same manner.

In Figures 5 and 6 a block is shown wherein the central ribs B and C are dispensed with and the block is provided on one of its horizontal faces with two nibs E which project direct from the face of the block. These nibs engage corresponding recesses or channels F in neighbouring blocks in the same manner as the nibs B^1 and C^1 engaged corresponding recesses or channels, and the nibs are of the same height as the previous ribs plus the nibs for blocks providing for a given joint. A vertical face of these blocks has a single nib G which is in every respect similar to the nibs E and cooperates with a recess or channel in the adjacent vertical face of a neighbouring block. This nib G also projects the same distance from the vertical face of the block as would a corresponding central rib and its nib for a block intended for use with the same joint.

It will be seen that with this form of block correct registration can be obtained as before, so long as care is taken not to put so much jointing-material on the block as to overflow the nibs, and as the nibs occupy little space on the face of the block a sound joint between the blocks and the jointing-material is obtained.

I claim:—

1. A building block having horizontal and vertical jointing faces, one of each of said faces having a tapering channel extending substantially the full length thereof, the remaining faces having a centrally disposed rib, each of the latter being provided with a nib adapted to fit within the bottom of the channel of the next adjacent block.

2. A building block having on one horizontal and one vertical jointing face a centrally disposed outwardly tapering rib, and in its other horizontal and vertical jointing faces a tapering channel, said channel having a greater taper than the taper of the before mentioned ribs, and nibs projecting from the ribs, the free ends of said nibs being snugly received within the bottom of the before mentioned channels whereby said nibs serve to register the blocks one with another and space the same to receive jointing material.

3. A building block having on one horizontal jointing face a plurality of projecting nibs substantially centrally disposed with relation to the horizontal face and on one vertical jointing face a projecting nib, and on each of the remaining jointing faces a tapered channel, the before mentioned nibs being adapted to fit within the tapered channels of an adjacent block whereby the blocks are aligned in spaced relation.

4. A building block having on one horizontal and one vertical jointing face a rib disposed centrally relative to the thickness of the block, nibs projecting from said ribs, and a channel in each of the remaining jointing faces, the latter being of sufficient width at its mouth to readily accommodate the rib of an adjacent block in spaced relation and of such width at its base as to snugly receive the before mentioned nibs of an adjacent block whereby the blocks are registered one with another in spaced relation.

5. A building block having on one horizontal jointing face a plurality of nibs projecting from a rib, the latter being arranged substantially centrally of the face of the block, a rib projecting from one vertical jointing face of the block and provided with a nib arranged near the end of the rib adja-

cent the before mentioned ribbed horizontal jointing face, the remaining faces of the block being provided with tapered channels, the taper of said channels being greater than the diameter of the before mentioned ribs whereby said channels may readily receive the ribs of an adjacent block in spaced relation, the before mentioned nibs being adapted to snugly fit the bottom of the channels of an adjacent block and serve to align the adjacent block.

In testimony whereof I affix my signature.

JOHN EDWARD WALLIS.